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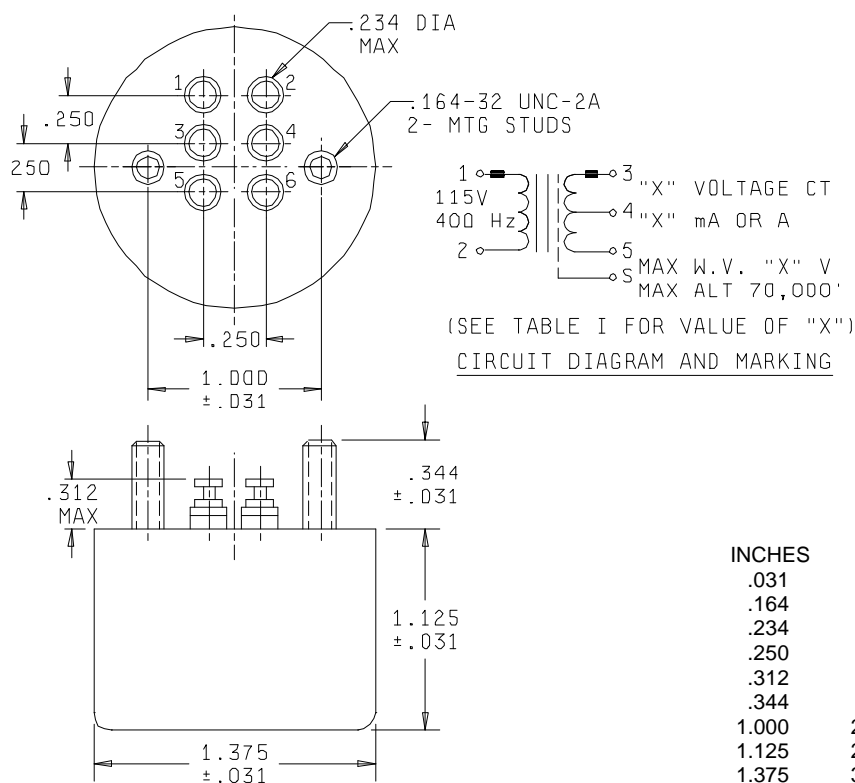
MIL-PRF-27/61C  
7 February 1984  
SUPERSEDING  
MIL-T-27/61B  
12 May 1978

# PERFORMANCE SPECIFICATION SHEET

## TRANSFORMERS, POWER, 16 VOLT AMPERES, 400 HZ, ELECTROSTATIC SHIELDED, TF4S03YY

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the transformers described herein shall consist of this specification and the latest issue of MIL-T-27.



### NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Tolerance on terminal position dimensions is ±.015 (0.38 mm).
4. Marking shall be on the side of the case.
5. Terminals are color coded for permanent identification in addition to terminal marking shown.
6. Secondary electrical values shall be marked as specified in table I, as applicable.

FIGURE 1. Dimensions and configuration.

Ⓒ denotes changes

REQUIREMENTS: (When numbers in parentheses i.e. (1-2) are used, they indicate the winding and the extreme terminals of the winding.)

Electrical ratings: See table I.

Primary voltage (1-2): 115 volts  $\pm 10$  percent, 400 Hz  $\pm 5$  percent.

Design and construction:

Dimensions and configuration: See figure 1.

Weight: 3.8 ounces, maximum.

Duty cycle: Continuous.

Case: Metal enclosed.

Material: Steel.

Altitude: 70,000 feet, maximum.

Operating temperature range:  $-55^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$  maximum.

Terminals: Feed thru.

Terminal height: 0.312 inch, maximum.

Terminal strength: Method 211 of MIL-STD-202, test condition A, 5 pounds.

Dielectric withstanding voltage:

At sea level: 2.8 times the maximum working voltage specified in table I.

At reduced barometric pressure: 1.25 times the maximum working voltage specified in table I.

Electrical characteristics:

No load: With 115 volts, 400 Hz across (1-2): Current in (1-2) shall not exceed 16 mA rms.

Rated load: With 115 volts, 400 Hz across (1-2) and a resistive load with current as specified in table I in (3-5), the voltage across (3-5) shall be as specified in table I.

Efficiency: 87 percent minimum at rated load.

Electrostatic shielding: The voltage ratio shall be a minimum of 5 to 1 at 20 kHz.

Polarity: Additive with terminals 2 and 3 connected.

Regulation: 
$$\frac{\text{Voltage (no load)} - \text{Voltage (rated load)}}{\text{Voltage (rated load)}} \times 100$$
 shall not exceed 8 percent.

Phase shift: 1.0 electrical degree between primary and secondary voltage at rated load, maximum.

Temperature rise:  $32^{\circ}\text{C}$ , maximum with 115 volts, 400 Hz across (1-2) at an ambient temperature of  $98^{\circ}\text{C}$ .

Vibration: MIL-STD-202, method 204, test condition D.

Marking location: See figure 1.

## © QUALITY ASSURANCE PROVISIONS:

## Extent of qualification:

Qualification testing and approval to M27/49-44 A or B, M27/51-44 A or B, M27/53-44 A or B, M27/56-44 and M27/66-27 shall be sufficient to grant qualification approval to MIL-T-27/48 through MIL-T-27/66 inclusive, all parts.

Qualification testing and approval to M27/61-44 shall be sufficient to grant qualification approval to M27/61-01 through M27/61-44.

Part number: M27/61-(dash number from table I).

TABLE I. Electrical ratings.

| Dash no. | Secondary voltage<br>(3-5)<br>(V rms)<br>±3% | Secondary current<br>(3-5)<br>(amps rms) | Working voltage<br>(V rms max) |
|----------|--|--|--------------------------------|
| 01       | 6  | 2.667                                    | 325                            |
| 02       | 6.3  | 2.540                                    | "                              |
| 03       | 7  | 2.286                                    | "                              |
| 04       | 7.5  | 2.133                                    | "                              |
| 05       | 8  | 2.000                                    | "                              |
| 06       | 9  | 1.778                                    | "                              |
| 07       | 10   | 1.600                                    | "                              |
| 08       | 11   | 1.455                                    | "                              |
| 09       | 12   | 1.333                                    | "                              |
| 10       | 12.6   | 1.270                                    | "                              |
| 11       | 13   | 1.231                                    | "                              |
| 12       | 15   | 1.067                                    | "                              |
| 13       | 16   | 1.000                                    | "                              |
| 14       | 18   | 0.889                                    | "                              |
| 15       | 20   | 0.800                                    | "                              |
| 16       | 22   | 0.727                                    | "                              |
| 17       | 24   | 0.667                                    | "                              |
| 18       | 26   | 0.615                                    | "                              |
| 19       | 28   | 0.571                                    | "                              |
| 20       | 30   | 0.533                                    | "                              |
| 21       | 33   | 0.485                                    | "                              |
| 22       | 36   | 0.444                                    | "                              |
| 23       | 39   | 0.410                                    | "                              |
| 24       | 43   | 0.372                                    | "                              |
| 25       | 47   | 0.340                                    | "                              |
| 26       | 51   | 0.314                                    | "                              |
| 27       | 56   | 0.286                                    | "                              |
| 28       | 62   | 0.258                                    | "                              |
| 29       | 68   | 0.236                                    | "                              |
| 30       | 75   | 0.213                                    | "                              |
| 31       | 82   | 0.195                                    | "                              |
| 32       | 91   | 0.176                                    | "                              |
| 33       | 100  | 0.160                                    | "                              |
| 34       | 110  | 0.145                                    | "                              |
| 35       | 115  | 0.139                                    | "                              |
| 36       | 120  | 0.133                                    | "                              |
| 37       | 130  | 0.123                                    | "                              |
| 38       | 150  | 0.106                                    | "                              |
| 39       | 180  | 0.089                                    | "                              |
| 40       | 200  | 0.080                                    | 440                            |
| 41       | 220  | 0.073                                    | 440                            |
| 42       | 240  | 0.067                                    | 440                            |
| 43       | 270  | 0.059                                    | 580                            |
| 44       | 300  | 0.053                                    | 580                            |

Custodians:

Army - ER  
Navy - EC  
Air Force - 85

Review activities:

Army - MI  
Navy - OS  
Air Force - 11, 17, 99  
DLA - ES

User activities:

Army - ME  
Navy - MC, AS  
Air Force - 19

Agent:

DLA - ES

Preparing activity:

Army - ER

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